Service Manual

(Supplement)

532H, 537H

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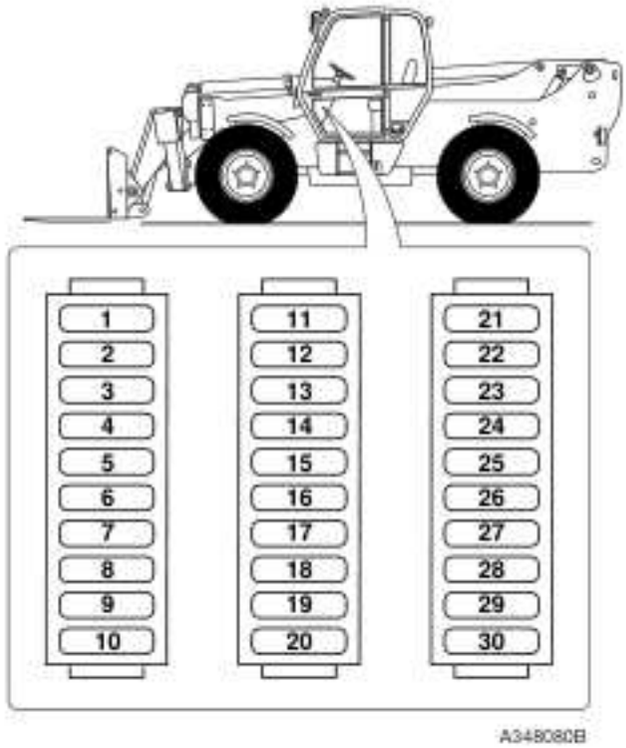
Fuse Identification

This illustration shows a typical fuse installation.

The electrical circuits are protected by fuses. The fuses are located in a fuse box, as shown. If a fuse blows, find out why before fitting a new one.

Additional fuse links are fitted at the battery positive terminal.

Note: The radio fuse may have a higher rating, depending on the type of radio fitted. Check radio fitting instructions.

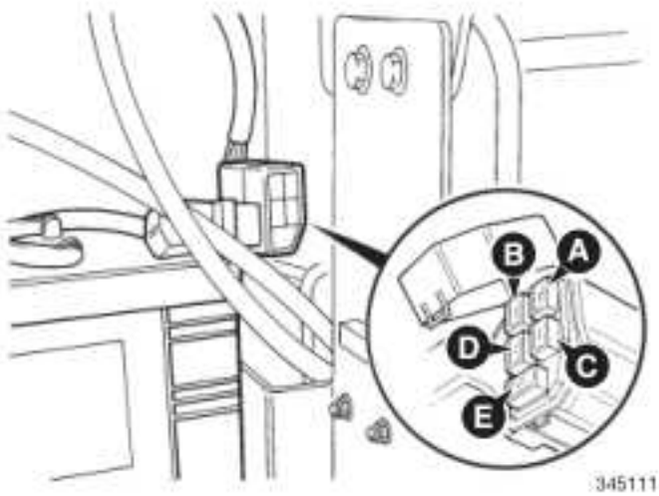


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	Circuit	Rating
1	Boom isolator	7.5
2	Auxiliary controls	10
3	Safe Load Indicator	5
4	Heater	15
5	Air conditioning, face fan	15
6	Wipers	15
7	Radio, clock, heated seat	5
8	Instrument panel	7.5
9	Direction indicators	10
10	NOT USED	
11	Starter relay	5
12	Engine shut-off solenoid (ESOS)	5
13	Steer mode selector	7.5
14	Hydrostatic drive system	15
15	Brake lights	5
16	Auxiliary socket	10
17	Brake switch	10
18	Rear work light	7.5
19	Reverse lights & warning buzzer	7.5
20	NOT USED	
21	Right hand side light	10
22	Left hand side light	10
23	Dip beam lights	10
24	Main beam lights	10
25	Front working light	10
26	Rear fog light option	5
27	NOT USED	
28	Horn, headlight flash	10
29	Warning beacon, Interior light	5
30	Hazard warning lights	15

Fuse Links

	Circuit	Rating
A	Horn, Hazard warning lights, Beacon, Interior light	40
B	Road lights, Working lights	40
C	SLI, Heater, Wipers, Radio, Instruments	50
D	ESOS, Forward/reverse switch, Brake lights	40
E	NOT USED	80



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Transmission Pump

Type	Variable displacement axial piston
Frame Size	75 (75 cc/rev, 4.57 in³/rev)
Charge Pressure Setting at Idle Speed	30 bar (435 lbf/in2)
Charge Pressure Setting at Flight Speed	40 bar (580 lbf/in2)
Charge Pump Details	Engine timing case-mounted pump with internal relief valve
High Pressure Setting Port A	480 bar (6960 lbf/in²)
High Pressure Setting Port B	480 bar (6960 lbf/in²)
Rotation	Clockwise (viewed on input shaft end)

Main Service Hydraulics Pump (also supplies Steering)

Type	Gear pump
Theoretical Displacement	46 cc/rev (2.81 in³/rev)
Max. Pressure	250 bar (3625 lbf/in²) at 3000 rpm
Rotation	Clockwise (viewed on shaft end)
Typical Delivery	100.5 l/min (22 gal/min) @ 2250 rpm, 250 bar (3625 lbf/in²)

Fan (Charge) Pump

Type	Gear pump
Theoretical Displacement	17 cc/rev (1.037 in³/rev)
Max. Pressure	170 bar (2465 lbf/in²) at 2750 rpm
Rotation	Clockwise (viewed on shaft end)
Typical Delivery	33.8 l/min (7.44 gal/min) @ 1500 rpm, 230 bar (3335 lbf/in²)

Fan Motor

Type	Gear motor
Theoretical Displacement	21 cc/rev (1.28 in³/rev)
Max. Pressure	140 bar (2030 lbf/in²) at 3500 rpm
Rotation	Clockwise (viewed on shaft end)
Fan Speed	2500 rpm @ Engine Flight Speed (2350 rpm)
Pressure Setting	110 bar (1600 lbf/in²) at 5 l/min (1.1 gal/min)
Torque	33 Nm (24.5 lbf ft) @ 110 bar (1600 lbf/in²)

Transmission Motor

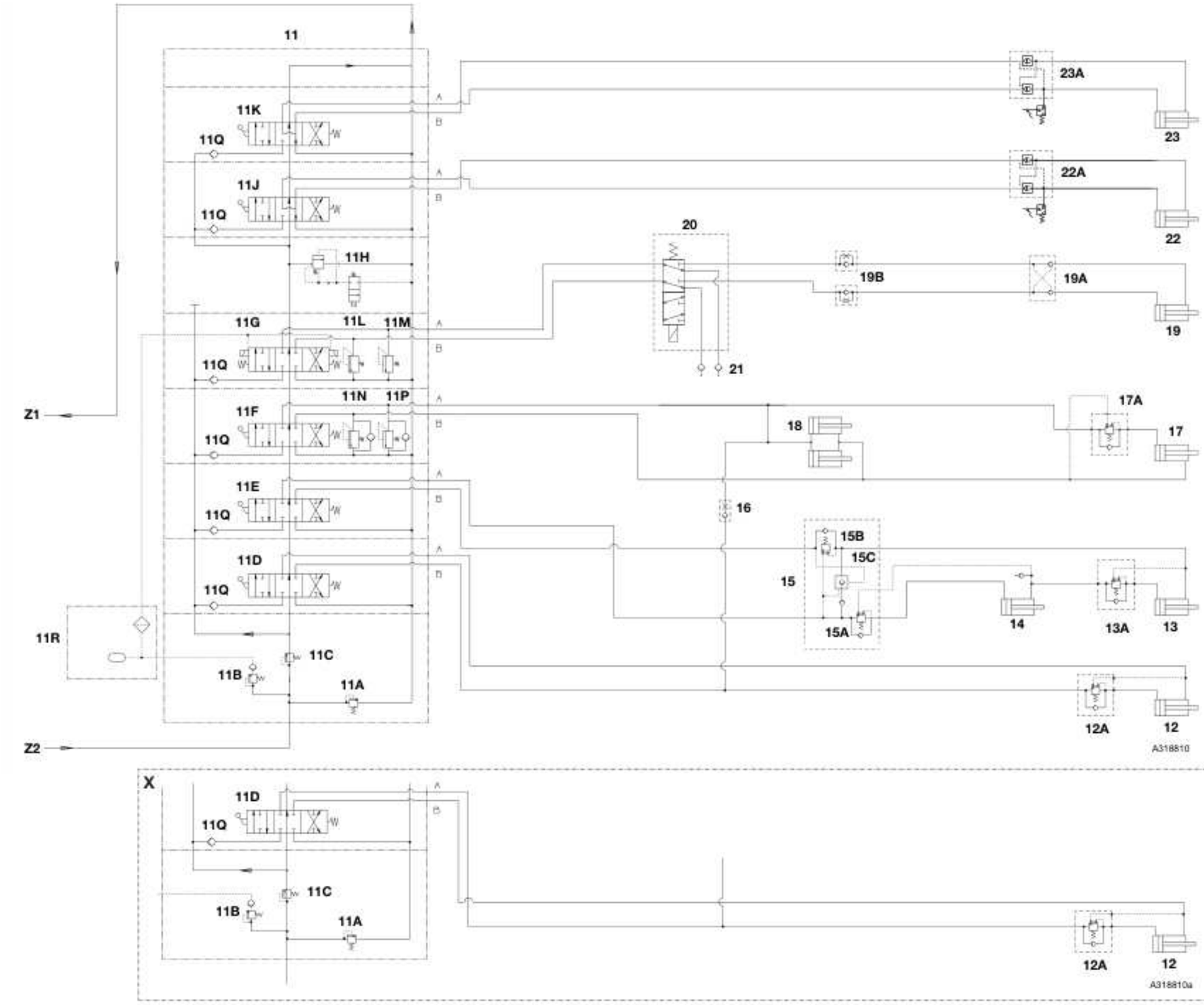
Type	Variable displacement bent axis piston motor
Reference	Series 51
Frame Size	160 (161 cc/rev, 9.82 in³/rev)
Minimum Displacement Setting	40 cc/rev (2.44 in³/rev)

Transmission Charge Filter

Micron Rating	10 Micron
Bypass Setting	3.5 bar (51 lbf/in²)
Bypass Indication	Electrical (warning lamp in cab)

Relief Valve Operating Pressure	**bar**	**kgf/cm²**	**lbf/in²**
Main Relief Valve (MRV)	240	244	3480
Auxiliary Relief Valves (ARV):			
Carriage Tilt/Crowd, Head Side	138	140	2000
Carriage Tilt/Crowd, Rod Side	276	280	4000
Auxiliary, Rod Side	138	140	2000
Auxiliary, Head Side	138	140	2000
Pressure Relief Valve	20	1.4	290
Pressure Maintaining Valve	10	0.7	145

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Dismantling and Assembly

* **Note 1:** From machine serial Number 775549, the main service pump has the priority valve mounted on it as shown in the inset. Remove this by removing bolts **21** before dismantling the pump.

Note 2: Before removing and dismantling the pump, check that its performance is as specified in Technical Data. If the pump performance is below that specified, the pump should be renewed. Renewal of components such as gears, bearings and housing will not effect a permanent cure. If the pump output is satisfactory but there is external leakage, it should be dismantled for re-sealing only. Before dismantling make sure that the pump exterior and working area are thoroughly cleaned and free from possible sources of contamination.

Dismantling

Mark the body **10**, flange **3** and flange **13** to ensure correct alignment when reassembling.

1 Remove bolts **1**, spring washers **2** and nuts **4**. Separate flange **3** and body **10** using a soft faced hammer. Discard 'O' ring **5**.

2 Remove back-up seal **6** and bush seals **7**.

3 Remove flange **13**, use a soft faced hammer to part the body **10** and flange **13**.

4 Remove back-up seal **19**, bush seal **18** and 'O' ring **20**. Discard 'O' ring **20**.

5 Remove drive shaft **12** and idler gear **11** with bushes **16** and **17**. Push out bushes **8** and **9**.

6 Remove circlip **14** and shaft seal **15**. Take care not to damage the shaft seal recess.

Make sure all seals and 'O' rings are discarded.

Inspection

Inspect all 'O' ring grooves and shaft seal recesses in the flange **13**. Make sure they are free from burrs. Check that all mating faces are not scored.

The pump must be renewed if any of the following faults are found:

a The gear cut-in track in the body low pressure side is deeper than 0.08 mm or has a scored and matt appearance.

b The PTFE coated bearings in the body or flange are worn through so that the bronze base is visible.

c The gear side faces or bush faces are scored.

d The drive shaft has a wear groove where the shaft seal lips run.

Wash all components. Apply hydraulic oil immediately afterwards to prevent moisture collecting.

Renew all seals and 'O' rings using the hydraulic fluid as a lubricant.

Assembly

1 Fit shaft seal **15** into the mounting flange **13** with gaiter spring facing into the pump and secure with circlip **14**. Grease the lips of the shaft seal with JCB JP Grease.

2 Fit bushes **8** and **9** in their original positions. Place end cover **3** temporarily against body **10** and stand assembly upright with dowels uppermost.

3 Fit drive shaft **12** and idler gear **11**. Fit bushes **17** and **16** in their original positions. Fit 'O' ring **20**, bush seal **18** and back-up seal **19**. Make sure that the flat face of back-up seal is uppermost.

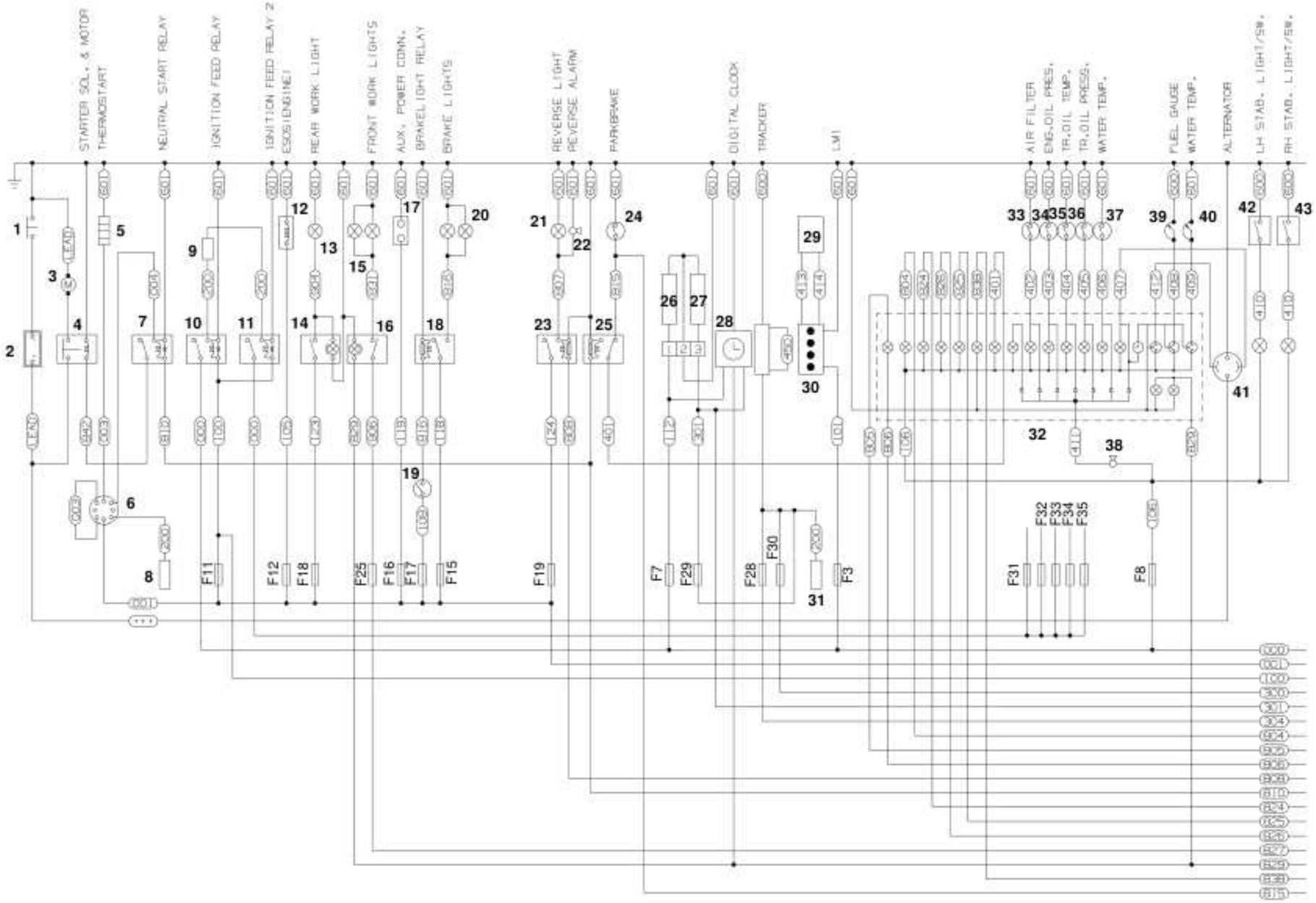
4 Locate flange **13** to main body with a square fit on the dowels. Turn the assembly over and support on the flange, not on the drive shaft. Remove end cover.

5 Fit 'O' ring **5**, bush seal **7** and back-up seal **6**. Make sure that the flat face of back-up seal is uppermost. Fit end cover **3** and secure with spring washers **2**, bolts **1** and nuts **4**. Torque tighten to 88-102 Nm.

6 Put a small amount of clean hydraulic oil in the inlet port and check that the drive shaft can be turned by hand without undue force.

7 **Machines from Serial Number 775549 only**
Fit a new 'O' ring between the pump and the priority valve and secure the priority valve onto the pump using bolts **21**. Tighten the bolts to 26-34 Nm.

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